

CEOS IDN NEWSLETTER



Message From the New WGISS Chair

By Ivan Petiteville, ESA, CEOS WGISS Chair



Ivan Petiteville (right) accepts the microphone and chairmanship of WGISS from John Faundeen (left)

Following the last CEOS Plenary in London, (Nov 14-18, 2005), I assumed the role of CEOS WGISS Chair from John Faundeen (USGS). It is an honor for me to serve and to represent a group of extremely competent people like WGISS. It is also a challenge to defend this group, promote its work and to assure a future role in major initiatives and programs like the Group on Earth Observations (GEO). The excellent work performed by WGISS and presented by John at the last CEOS Plenary, has largely contributed to the GEO Director's decision to enroll CEOS and its working groups into GEO. In particular, the

presentation of the International Directory Network (IDN), one of the greatest achievements of CEOS WGISS, has impressed all the participants to the CEOS Plenary. A worldwide, interoperable, and user-friendly system perfectly matches the GEO spirit. The growing numbers of records (DIFs) and users are the best measurements of that successful initiative. Since I have joined CEOS WGISS, I have always admired the speed at which improvements have been brought to the system for the benefit of the users. The quick response time of the IDN team to set up specific dedicated portals has always been a mystery to me. Does the IDN team ever sleep? More than ever, CEOS WGISS needs the support of the motivated IDN team in its contribution to Earth Observation and in particular to GEO.

IDN'ly Yours,
Ivan Petiteville, ESA

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Technology in CEOS – The Task Teams

By Paul Kopp, CNES, Technology and Services Subgroup Chair



Mr. Paul Kopp CNES

Paul Kopp has served as chair of Technology and Services Subgroup for the past 2 years.

Readers of this newsletter know the International Directory Network (IDN) well, but how well do they know its official frame: the Committee on Earth Observation Satellites (CEOS).

To reach their objectives, CEOS adopted data exchange principles in 1992:

1. Preservation of all data needed for long-term global change/climate and environmental research and monitoring is required.
2. Data archives should include easily accessible information about the data holdings, including quality assessments, supporting ancillary information, and guidance and aids for locating and obtaining the data.
3. International standards - including those generated by the CEOS Working Group on data - should be used to the greatest extent possible for recording/storage media and for processing and communication of data sets.
4. Maximizing the use of satellite data is a fundamental objective. An exchange/sharing mechanism among CEOS Members is an essential first step to maximize use.
5. Non-discriminatory access to satellite data by non-CEOS Members for global change/climate and environmental research and monitoring is essential. This should be achieved within the framework of the exchange and sharing mechanisms set up by CEOS Members.
6. Programs should have no exclusive period of data use. Where the need to provide validated data is recognized, any initial period of exclusive use should be limited and explicitly defined. The goal should be release of data in some preliminary form within 3 months after the start of routine data acquisition.

7. Criteria and priorities for data acquisition, archiving, and purging should be harmonized.

(source: <http://ceos.cnes.fr:8100/cdrom-00b2/ceos1/policy/policy2.htm>)

Technology in CEOS

It may be worth recalling these objectives and principles because they legitimate the many technical activities carried on in CEOS that could otherwise look somewhat esoteric to the unaware observer. All these activities contribute to one single goal: make the information expected by the final user available. Information is here defined as “something that imparts knowledge”. In this sense, information differs from data: data is no more than a digital representation of information. From the CEOS perspective, data repositories and users are disseminated worldwide.

The mission of the “Technology and Services Subgroup” is to analyze and understand the technology CEOS needs to reach its goals within the CEOS “Working Group on Information Systems and Services”.

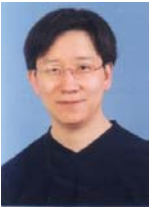
Five technical topics are identified so far, each one devoted to a specific “task team” in the “Technology and Services” subgroup:

1. **Archive** Task Team Leader: Kengo Aizawa, JAXA - Japan



Archives are needed for long term preservation (over years), which means that they must be able to deal with possible technological gaps. In this perspective, the archive task team is considering methods and standards which should enable interoperability at both hardware and software levels between storage products from different vendors and help CEOS agencies to become vendor independent. The task team is also experimenting with how an archive service should be organized for preparing the archiving requirements with regards to the user needs and for preserving over time the quality of the service archive users are expecting. This implies that an archive should consider Information Lifecycle Management for storage systems. Archives must also plan to move data stored on aging storage devices to other ones and save together ancillary information (browse, catalog records...). In

addition, there are plans to provide guidelines about the data and file formats to be used by CEOS agencies.



2. **Grid** Task Team Leader: Li Guoqing, RSGS - China

The grid technology is a means to share computing and/or storage resources among organizations willing to cooperate with each other. This technology is very promising and is now more and more in use among CEOS agencies (most of them use the Globus Toolkit software suite). However, it is still very difficult to run a grid based system under operational constraints, and security is a great concern for some agencies. The task team is currently concentrating on the sharing of experience among agencies having implementing the grid technology.



3. **International Directory Network** Task Team Leader: Lola Olsen, NASA - USA

Data must be described by metadata to be known and accessed by users. Describing data implies that there is a common view about a generic metadata structure. The "Directory Interchange Format" (DIF) is the structure recommended by CEOS. It has become a de facto standard, and the International Directory Network (IDN) is the major infrastructure provided by CEOS for metadata management. About 16,500 metadata records are available today through the IDN, either through the main IDN portal (<http://idn.ceos.org>) or through dedicated portals, which may be easily customized to an agency's particular needs. Using DIF as a metadata standard does not mean that CEOS agencies can not use other metadata structures like Dublin Core, FGDC (widely used in the USA) or the recent ISO 19115 metadata structure. All these structures are considered compatible with the DIF by the IDN task team. Harmonizing the DIF and other metadata structures is an ongoing process.



4. **Interoperable Catalogue System** Task Team Leader: Jolyon Martin, ESA

Interoperable catalogs are the infrastructure offered to the final user for data access without having to know where the actual data repositories are located or to understand their specific query interfaces. The current CEOS interoperable catalog is known as the "eoPortal" ([http://](http://catalogues.eoportal.org)

catalogues.eoportal.org). It is operated by ESA and links data catalogues from ESA, NASA and DLR. It is based on the "Catalogue Interoperability Protocol" (CIP), which represented in the past a tremendous effort by CEOS agencies to understand and define a common view on interoperability.



5. **Services** Task Team Leader: Shinobu Kawahito, JAXA - Japan

Services are a means to extract information from data. Sharing a common view on services allows for services interoperability.

There is not yet a CEOS infrastructure available for services, though the previously mentioned IDN already offers a significant number of high level service metadata. Most of the services defined by the Open Geospatial Consortium specifications (web catalog services, web map services, web coverage services, web feature services,...) have already been implemented by CEOS agencies. It is agreed that a CEOS service taxonomy is needed to facilitate the discovery of services. In addition to a service taxonomy, an ontology is also needed so that the services provided by one provider can be accurately discovered and chained with other services provided by different providers, especially in a (semi-)automatic way. Service chaining relates to the workflow problem, which is also addressed by the task team.

Obviously, these five topics do not address the total challenge. Therefore, other task teams could be set up in the future. For example, it could be appropriate to have a task team for the question of information portrayal, i.e., the way to make information "visible" to the final user. Volunteers are welcome! If you adhere to CEOS objectives and your agency is a member of CEOS, please join us and participate in the CEOS/WGISS. Thanks in advance.

To know more about CEOS, visit: <http://www.ceos.org>. To know more about the CEOS Working Group on Information Systems and Services, visit: <http://wgiss.ceos.org>.

After a Hard Day's Work at WGISS 20 in Kiev



Moving Clockwise from the stone post: Pakorn Apaphant, GISTDA; Satoko Miura, JAXA; Paul Kopp, CNES; Li Guoqing, RSGS/NRSCC; Charlie Barton, Australia; Kate Cudlip, Guest; Masatoshi Kamei, JAXA/RESTEC; Yonsook Enloe, SGT; Wyn Cudlip, BNSC; Stu Doescher, USGS; Shinobu Kawahito, JAXA/RESTEC; Jean-Pierre Antikidis, CNES; Osamu Ochiai, JAXA; Ivan Petiteville, ESA; Kathy Fontaine, NASA; Brian McLeod, CCRS; Oliver Greening, ESYS Consulting; Victor Savorsky, Russia; Jolyon Martin, ESA; Dave Clark, NOAA; Kengo Aizawa, JAXA; Ben Burford, JAXA/RESTEC.

Summary and IDN Task Team Action Items from WGISS 20

As Recorded By Ken McDonald, NASA

Continuous progress of the IDN was noted. Participants were impressed with the Ukraine WMS "demo," which resulted in the first action below. Multilingual efforts by JAXA and CCRS nodes caught the interest of the group and generated considerable discussion. Dr. Liu Chuang mentioned that she is trying to get four different organizations in China to consider participating in the IDN. The new WGISS song was performed in its entirety during the meeting. (Segment of song found on Pg. 5)
Items as follows:

Action #20-13: IDN to provide canned demo (with sound) of the IDN itself and the map server.

Lola Olsen Due 31 Jan 2006 **Closed**

Action #20-14: Provide statistics on the IDN CEOS and GEOSS portals that were developed. (Lola)

Lola Olsen Due Oct 2005 **Closed**

[Portal statistics will be shared in upcoming meeting in Budapest.]

Action #20-15: Password-protect the IDN GEOSS portal and add a disclaimer.

Lola Olsen 15 October 2005 **Closed**

Other Action Items:

- EO Data Portal Project representatives to talk to the IDN Task Team Chair to coordinate access to the URL.
- Implement a forum capability (on-line discussion tool).
- Each Task Team to provide to the Subgroup, for validation and coordination, two FAQ questions and answers.
- Provide a straw man for service categorizing on services role.

Adapted from Olivia Newton John's "Wherever You Go"
Segment of the Score from New WGISS Song!
Printed with Permission, Al Gallico Music Corp., New York

The musical score is written for a vocal line and a piano accompaniment. The key signature has two flats (B-flat and E-flat), and the time signature is 4/4. The vocal line includes the lyrics: "We al-ways want to be there guid-ing you to ___", "Cor-do-ba, Ki-ev, or on-to Bud-da-pest see-ing you thru ...". The piano part provides harmonic support with chords and arpeggiated figures. Chord diagrams are provided for the guitar: E7, Ab, and Eb.

We al-ways want to be there guid-ing you to ___

Cor-do-ba, Ki-ev, or on-to Bud-da-pest see-ing you thru ...



The IDN Mapserver Update

By Tyler Stevens, GIS Coordinator

The American Coordinating Node recently upgraded its prototype Mapserver software from version 9.0 to 9.1 and implemented the ArcMap server interoperable extension. The version of the server allows the use of ArcGIS desktop to create mapping projects and then publish them to ArcIMS. It allows for advanced cartographic options and integration of additional GIS layers, including ArcIMS map services and OGC WMS map services into one project.

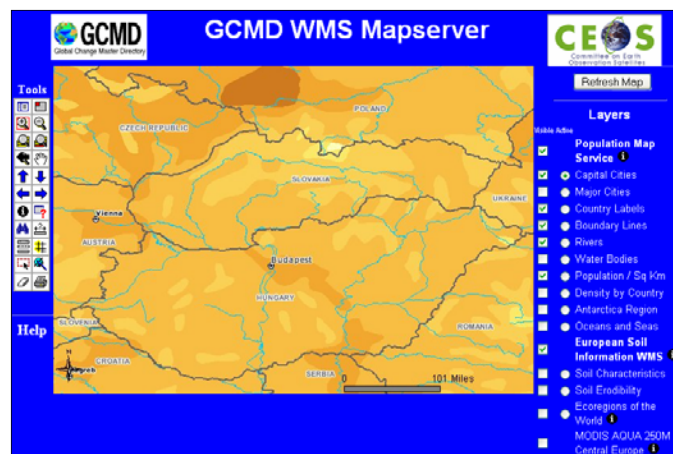
Currently, the IDN is testing the integration and performance of multiple WMS map services within the prototype mapserver. The health of the ArcIMS map service is completely dependent on the stability and health of the other services. When a user accesses the prototype mapserver, a request is sent to the ArcIMS spatial server and that request is sent to the external ArcIMS or WMS servers to extract information. Then the response from the external application is sent back to the ArcIMS spatial server and then back to the user. This creates an increased load for ArcIMS and increases the response time of a request. A possible solution being investigated is caching external queries on the server side to decrease response time.

Data layers within the prototype Mapserver can be accessed via the WMS GetCapabilities document. These are XML encapsulated documents that contain service-related metadata that call a WMS service. An OGC WMS client is required to access the

data layers within the map service. The GetCapabilities request document for the CEOS Mapserver can be found at:

http://mapserver.gsfc.nasa.gov/wmsconnector/com.esri.wms.Esrimap/CEOS_BUDAPEST?request=getcapabilities&service=WMS&version=1.1.1

The American Coordinating Node plans to continue testing and expand the availability of NASA data sets within the prototype Mapserver and also investigate other open geospatial standards.



GCMD Prototype Mapserver

Geospatial Metadata Support Between the IDN and Geospatial One-Stop

By Tyler Stevens, GIS Coordinator and Scott Ritz, Atmospheric Science Coordinator

The IDN contributes NASA metadata content to the Geospatial One-Stop (GOS) portal. GOS is a U.S. Office of Management and Budget (OMB) E-Government initiative that allows for improved access to geospatial information. NASA metadata content can be searched through the portal at:

<http://www.geodata.gov>.

A harvesting procedure was setup by the IDN, allowing GOS to continuously retrieve and add the IDN's metadata content to the GOS database. The IDN metadata is automatically extracted from the database using a predefined query, which returns an XML file containing all the NASA DIFs. An XML translator script individually breaks out each DIF and translates it to FGDC format using a custom stylesheet created by the IDN. The stylesheet maps between the IDN's DIF standard and the FGDC standard. Then the XML files are placed on a production machine where they are indexed. GOS uses the Z39.50 protocol to harvest the metadata from the IDN, which is then indexed and made available in the GOS portal for public viewing.

Specific metadata records can be highlighted in GOS through community stewards. GOS community stewards are responsible for adding and maintaining the content in these channels. The

IDN contributed NASA satellite imagery related to Hurricane Katrina to the hurricane community within GOS.



Geospatial One-Stop (GOS) Portal

IDN Data Set Descriptions Reflect Recent Climate Research Results

By Gene Major, GCMD

The year 2005 was unprecedented in the number and intensity of climate events: extended droughts, devastating floods, record numbers of hurricanes and intense heat waves. (World Meteorological Organization (WMO) Report WMO-No. 743 (http://www.wmo.ch/web/Press/Press743_E1.doc)). The CEOS International Directory Network (IDN) continues to provide users with timely access to significant climate change research data through its data set descriptions.

2005: 2nd Annual Global Temperature Rise:

The University of East Anglia's Climate Research Unit (CRU) reported that the global mean surface temperature was estimated to be +0.48°C above the 1961-1990 annual average, making 2005 the second warmest year on record since 1861.

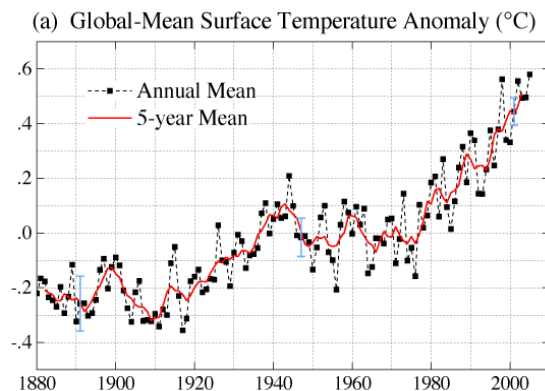
Data Access: http://gcmd.nasa.gov/getdif.htm?CRU_JONES

Analysis by NOAA scientists also reported that 2005 was likely to be recorded as the second warmest year on record with 0.59°C above the 1880-2004 mean.

Data Access: http://gcmd.nasa.gov/getdif.htm?NOAA_NCDC_GHCN_ANOM.

NASA scientists at the Goddard Institute for Space Studies (GISS) reported that 2005 temperatures were the second warmest on record based on a 1950-1980 mean.

Data Access: http://gcmd.nasa.gov/getdif.htm?GISS_GISTEMP



Source: NASA/GISS.

<http://data.giss.nasa.gov/gistemp/2005/>

650,000 Years of Greenhouse Gas Concentrations:

Researchers drilling in Antarctica have extended the ice core record of greenhouse gas concentrations for CO₂, CH₄ and N₂O back 650,000 years. The results have recently been published in *Science* (Siegenthaler et al. and Spahni et al.). According to RealClimate.org "This is a landmark result and a strong testament to the almost heroic efforts in the field to bring back these samples from over 3km deep in the Antarctica ice." IDN access to these data sets can be found at:

http://gcmd.nasa.gov/getdif.htm?NOAA_NCDC_PALEO_2005-077

and

http://gcmd.nasa.gov/getdif.htm?NOAA_NCDC_PALEO_2005-078

Rapid Climate Change:

The prospect of rapid climate change was strengthened when the journal, *Nature*, (Bryden, et al.) presented results from oceanographic cruises (since 1957) at 25°N across the Atlantic showing an approximately 30% decline in the Atlantic Meridional Overturning Circulation (MOC). These results show notable changes in the structure of the deep return circulation. IDN access to the MOC images can be found here:

<http://gcmd.nasa.gov/getdif.htm?MOC>

Hurricanes:

With 26 named tropical storms, of which 14 became hurricanes (7 of these "major"), the Atlantic hurricane season broke all records. Katrina was the deadliest hurricane to hit the United States since 1928, and Wilma was the most intense Atlantic Hurricane ever recorded. The IDN has access to descriptions of several of the available data and imagery through the Tropical Cyclone portal:

<http://gcmd.nasa.gov/portals/hurricanes/>

Climate Convention in Montreal:

The United Nations Framework Convention on Climate Change (UNFCCC) was held in December 2005 in Montreal (<http://unfccc.int/2860.php>). The Conference closed with the adoption of more than forty decisions that will strengthen global efforts to fight climate change. Key greenhouse gas data released for the UNFCCC meeting can be found in the IDN at http://gcmd.nasa.gov/getdif.htm?UNFCCC_KEYGHG

References:

Siegenthaler, U., T. F. Stocker, E. Monnin, D. Luthi, J. Schwander, B. Stauffer, D. Raynaud, J.-M. Barnola, H. Fischer, V. Masson-Delmotte, J. Jouzel. 2005. "Stable Carbon Cycle-Climate Relationship During the Late Pleistocene". *Science*, v.310: 1313-1317, 25 November 2005.
DOI: 10.1126/science.310.5752.1241d

Spahni, R., J. Chappellaz, T.F. Stocker, L. Loulergue, G. Hausamann, K. Kawamura, J. Fluckiger, J. Schwander, D. Raynaud, V. Masson-Delmotte, and J. Jouzel. 2005. "Atmospheric methane and nitrous oxide of the late Pleistocene from Antarctic ice cores". *Science* 310: 1317-1321, 2005.

Bryden, et al., 2005. "Slowing of the Atlantic meridional overturning circulation at 25°N". *Nature* 438: 655-657.

For a discussion of climate issues by leading scientists visit the RealClimate blog at: <http://realclimate.org>

Biodiversity Data in Russia

By Falk Huettmann, Ph.D., Assistant Professor, Institute of Arctic Biology

Russia is known not only for its huge wealth in natural resources, but also for some issues with governmental policy and administration. The state of biodiversity, and its associated digital data for terrestrial and marine regions, are good indicators of these issues and deserve our attention for the sustainable management of the global village.



Collecting Data

For over 8 years now, I (Dr. Falk Huettmann) have worked in Russia with various co-workers on wildlife in fascinating habitats — experiencing true wilderness, as well as habitats affected by humans. The human aspects in such regions are almost as fascinating as the data and the administration governmental policies. While I was working in many localities of the Sea of Okhotsk region, I observed major changes: from a broken Russia, to uncertain times and then to a steep increase in growth in Russia that even surpassed the western world's lifestyle. The western world still does not have a complete picture of Russia, or of the wealth and biodiversity in Asia. Myth and rumor still rule. In recent years, Russia has become the largest oil and gas producer in the world and a large player in forestry and mining. It is an incredibly rich nation. However, it is curious to observe that the federal and local administrations aren't willing to bring Russia's research, educational, nature reserves, and museum resources up to the world-renowned standard at which they had been before. Compared to its global role, only a few high quality data sets for Russia deal with biodiversity, habitats, conservation and sustainable management. Major data heritages are on the verge of being lost in Russia, and much science is done by international co-workers — fragmenting Russian biodiversity knowledge all over the globe. No central data storage exists.

Commitment to Biodiversity Data

One can only commend the Russian experts for their commitment and patriotism in keeping the infrastructure and expertise alive. It is not the Russian Academy of Science that is in full control — rather many international players contribute. Often this pattern is driven by the former member states of the Soviet State. Although major institutions may be dysfunctional, Russia offers local knowledge, literature, and expertise on the magnitude of a world heritage. Additionally, Russia offers skilled and highly motivated labor. Its computing workforce is well known and actually ranks number three on the global market for programmers (after India and Israel). Thus, it is well-

positioned for repeating the National Commission for the Knowledge and Use of Biodiversity (CONABIO) experience (http://www.conabio.gob.mx/remib_ingles/doctos/remib_ing.html), which brought Mexico to the global forefront of modern biodiversity inventory and management. What is missing for Russia is the international community providing guidance and support on the data issue.

For Asia, Russia's role is crucial on the data and biodiversity front: for example, dealing with migratory shorebirds, gulls and plankton connecting countries between the high Arctic, Alaska and southern hemisphere (Papua New Guinea, Philippines, Australia and New Zealand). The Russian Far East is heavily influenced by Asia, namely Japan, China, India and Korea. Asia provides Russia with cheap labor but also with markets. This is especially true for fisheries, forestry, mining, oil and gas, all of which drive biodiversity questions and affect the future of Russia's Biodiversity.

From my work in the Russian Far East, I have compiled four biodiversity databases: (1) All known compiled Shorebird Sightings and a Predictive Model for Russian Far East, (2) First Gull Inventories for Coastal Sea of Okhotsk, (3) Coastal Biodiversity Expedition Summary (shorebirds), (4) and Ocean Plankton Data for the Arctic Ocean Biodiversity project (details are presented and forthcoming on the NBII and University of Alaska server searchable at <http://mercury.ornl.gov/nbii/> and are available through the IDN portal).



Shorebirds at Yana River in Kamchatka

The next issue will contain a continuation of this article where I will describe further experiences from these projects.

9th Meeting of the Joint Committee on Antarctic Data Management (JCADM)

By Taco de Bruin, JCADM

The Joint SCAR/COMNAP Committee on Antarctic Data Management (JCADM, <http://www.jcadm.scar.org/>) recently held its ninth annual meeting and its second Latin American capacity-building workshop in Buenos Aires, Argentina. JCADM is an infrastructure of national focal points for Antarctic data to help nations fulfill the Antarctic Treaty obligations (Antarctic Treaty, Article III – 1c: “Scientific observations and results from Antarctica shall be exchanged and made freely available”; see also Antarctic Treaty Secretariat, <http://www.ats.aq/>). JCADM is sponsored by the Scientific Committee on Antarctic Research (SCAR) and the Council of Managers of National Antarctic Programs (COMNAP). Currently, JCADM has a total membership of 30 countries. Fifteen countries were represented at the recent meeting.



Left to right (back): Jan Huber, Diago Gomez Izquierdo, Oscar Bermudez, Greg Scharfen, Rob Bauer, Stein Tronstad, Taco de Bruin, Manfred Reinke, Thierry Lemaire, Hosung Chung, Zhu Jiangang, Claudio Rafanelli
Left to right (front): Celia Izquierdo, Talha Hassan, Kim Finney, Helen Campbell, Melanie Meaux, Patricia Vicuna

The meeting began with a series of presentations on data management, capacity building, and the position of JCADM within the Antarctic Treaty System. Reports were given by National Antarctic Data Center (NADC) representatives and the JCADM Chief Officer on the 2004/05 achievements. A list of future activities specific for JCADM and for each NADC was created and agreed upon.

Mélanie Meaux (GCMD) representing the IDN, presented reports on the status and recent developments of the Antarctic Master Directory (AMD, <http://gcmd.nasa.gov/portals/amd/>). She also gave a hands-on demonstration of the latest on-line and new stand-alone versions of the docBuilder tool for metadata submission. This appeared to be a great success and brought a number of JCADM representatives quickly up-to-speed with many of the latest tools available for data management.

JCADM continues to populate the AMD and to support the long-term on-line availability of data sets described in the AMD. The total number of data set descriptions in the AMD has increased from 2978 (July 2004) to 3588 (September 2005), a 17% growth. This number is growing continuously, making the AMD by far the largest directory of Antarctic data set descriptions. An estimated 30% of these records provide direct access to the data, with that number increasing. Following the meeting, two new NADC portals were created: Malaysia (http://gcmd.nasa.gov/portals/amd_my/) and Australia (http://gcmd.nasa.gov/portals/amd_au/), bringing the total number of NADC portals to 15.

In the coming year, JCADM will continue to fulfill its role as the data management expert committee for SCAR and COMNAP and will work to further improve relationships with peer organizations like the International Oceanographic Data and Information Exchange Committee (IODE). At the national level, JCADM members will continue to develop partnerships with their National Oceanographic Data Centers (NODC) and Arctic counterparts.

JCADM is actively involved in the data management tasks for the upcoming International Polar Year (IPY) 2007/2008. The JCADM Chief Officer (Taco de Bruin) was elected by the IPY Joint Committee as one of the co-chairs of the IPY Subcommittee on Data Policy and Information Management.

Welcome Message From Host

By Viktor Pusztai, EOGEH-Hungary



Relax! Viktor's "Mantra" while preparing for WGISS-21.

The Budapest organizers are happy to welcome the IDN team, along with the Archive, Grid, ICS, and Services WGISS Task Teams to Budapest for the upcoming meeting this May. We are also pleased to host the Working Group on Calibration/Validation (WGCV; also known as Cal/Val) and look forward to the joint sessions between WGISS and WGCV. The meetings will be held at

Hotel Gellert between the 8th and 12th of May, 2006.

After many years of cooperation in support of the IDN - first between the Ministry of Environment and its UNEP/GRID Budapest Centre, then through EOGEH Hungary, and UNEP/GRID Arendal, the EOGEH Hungary team is glad to finally host the CEOS groups "in person". It is a milestone and indeed a good opportunity for the entire EOGEH Hungary team and other local experts from the broader Hungarian geospatial community interested in

the IDN topics to have a chance to directly interact with the IDN Task Team.

While participation in previous WGISS meetings was always limited to 1 or 2 persons only from the Hungarian side, this is now an opportunity for all here to exchange or contribute ideas to the WGISS, at a time when Hungary is also becoming more active in the GEO and the GEOSS process. The IDN team will also have the opportunity to listen and learn about the local Hungarian Earth observation projects and initiatives in different government and other sectors, interact with the presenters during the Hungarian Earth Observation workshop scheduled for Thursday morning (May 11th), and perhaps even develop potentially useful partnerships for the future.

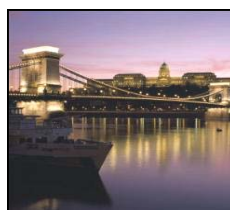
EOGEH Hungary and the entire team of organizers in Budapest, as well as the HUNAGI, GRID Budapest, and Ministry of Environment staff are looking forward to this event, and to all the new and useful information the task teams will be bringing to Budapest. We also anticipate finally meeting participants face-to-face - those more often known only from electronic communications.

Welcome to Budapest!

Preparing For Your Travel to the "Queen of the Danube"

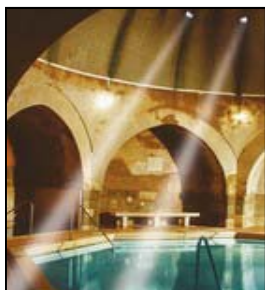
By Christina Chiddo, Student Intern (SSAI)

Budapest will serve as the host city for the upcoming CEOS Working Group on Information Systems and Services (WGISS) in May of 2006. Located in Central Europe, Budapest has a well-functioning network of public transportation services that include buses, trolleybuses, trams, underground trains (Metró) and ground over suburban trains (HÉV). The city has a temperate continental climate, with well defined seasons — July and August being the hottest months, and December and January being the coldest months when temperatures may fall to -15°C or just $+5^{\circ}\text{F}$. There is usually sunshine throughout May, with an average temperature of 60°F .



The Chain Bridge over the Danube River

The famous Danube River flows through the center of Budapest and is a half mile wide, splitting the west bank from the east bank — resulting initially in the independent formation of the two cities, Pest and Buda. The Chain Bridge ignited the economic revival that brought together the provincial towns of Pest and Buda into a fast-growing metropolitan in 1849.



Király Bath

Recognizing the unique value of its traditions, Budapest is known as the Queen of the Danube or the City of Spas. There are dozens of thermal bath complexes served by over a hundred natural thermal springs. These waters possess various medicinal properties and supply the city's many thermal baths. [Bring your bathing suit!]

An exploration of this engaging city highlights one of the most culturally diverse capitals in Europe. There are eighteen museums, theaters featuring exceptional plays, the Opera House, the Basilica, the Synagogue, the Fun Fair, and the Zoo, not to mention the compelling attraction of the CEOS IDN collaboration. The caves of Buda are one of its best kept secrets. Pálvölgy Cave has over half mile of zigzagging tunnels decorated with stalactites and stalagmites. The Castle of Vajdahunyad is a strange complex of buildings that has a touch of the Fairytale Castle to it. It was especially created for the 1896 Millenary Celebrations and originally intended as a temporary structure. However, it was so popular that it was rebuilt with stronger materials.

Integrating Ideas for International Data Collaborations Through The International Directory Network (IDN)

By Lola Olsen, NASA

The capabilities of the International Directory Network's (IDN) version MD9.5, along with a new version of the metadata authoring tool, "docBUILDER", will be presented during the Technology and Services Subgroup session in Budapest. Feedback provided through the international community has proven instrumental in positively influencing the direction of the IDN's development. Support for using the ISO international Character set, in addition to its various language options, encourages the extended use of the IDN.

Temporal and spatial attributes often prove pivotal in the search for data. Prior to the new software release, the IDN's geospatial and temporal searches suffered from browser incompatibilities and often resulted in unreliable performance for users attempting to initiate a spatial search using a map based on aging Java applet technology. The IDN now offers an integrated Google map and date search that replaces applet technology. In addition, one of the most defining characteristics in the search for data relates to the temporal and spatial resolution of the data. The ability to refine the search for data sets meeting defined resolution requirements is now possible.

Data set authors are encouraged to indicate the precise resolution values for their data sets and subsequently bin these into one of the pre-selected resolution ranges.

New docBUILDER metadata authoring tools have been well received. In response to requests for a standalone metadata authoring tool, a new version of the authoring tool, "docBUILDER solo," has been released to the public. This tool permits researchers to document their data during experiments and observational periods in the field.

Interoperability has been enhanced through the use of the Open Archives Initiative's (OAI) Protocol for Metadata Harvesting (PMH). Harvesting of XML content through OAI-PMH has been successfully tested with several organizations. The protocol appears to be a prime candidate for sharing metadata throughout the international community.

Data services for visualizing and analyzing data have become valuable assets in facilitating the use of data. Data providers are offering many of their data-related services through the directory. The IDN plans to develop a service-based architecture to further promote the use of web services. During the IDN Task Team session, ideas for further enhancements will be discussed.



<http://idn.ceos.org>

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IDN TASK TEAM MEETING AGENDA (2 hrs) MAY 9th

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| <p>8:30 Introduction and Review of Minutes from Kiev.</p> <p>8:35 IDN Newsletter and Action Items</p> <p>8:40 Status of Interop: "model" issues, other proposals. Propose to offer the Interoperability Forum through use of Wiki.</p> <p>8:50 Update on Usage Statistics, Keywords, URL_Content Types, DIF and SERF Content, Portals, etc.</p> <p>9:05 Update on MD 9.5 software</p> | <p>9:30 Node Presentations and Reports:
Kengo Aizawa, JAXA: Multilingual GCMD extended version, with French language and translation function.</p> <p>9:40 Other node presentations</p> <p>10:15 Plans for the Future: Next Upgrade</p> <p>10:25 Discussion Topics</p> <p>[IDN Services will be presented during Services Task Team session.]</p> |
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*Additional assistance for this newsletter was provided by Heather Weir & Anthony Ajayi.